REMARKS

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

No claims are requested to be cancelled, amended, or added.

A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier.

In the Office Action, claims 6-11 and 27-30 were rejected under 35 U.S.C. § 112, ¶ 1, as failing to comply with the enablement requirement. In particular, it was asserted that the claims contain subject matter not described in the specification to enable one skilled in the art. In the rejection, it was asserted that several items in the description were not clear, e.g., the structure of Figs. 3-7, the term monolithic, what elements are or are not part of other elements, and the operation and structure of the heat sink.

First of all, it is not clear from the rejection, what part of the claimed invention, if any, is not enabled. If the claimed invention if fully enabled, then it is not understood why a rejection under 35 U.S.C. § 112, ¶ 1, is being made.

Furthermore, Applicants submit that each of the questions set forth in the rejection is fully explained and enabled in the specification. With respect to Figs. 3-7, Fig. 3 shows an exploded view of exemplary temperature control device 100 including a monolithic heat sink 104, a cover 106, caps 108, and a heater 110 (see ¶ [0033]). Fig. 4 shows a perspective view of the temperature control device of Fig. 3. Fig. 5 shows an exploded view of cover 106, heat sink 104, and caps 108 to illustrate the flow paths through, e.g., cooling passages 114 and 116. Figs. 6 and 7 show a first side 156 and a second side 158, respectively, of the heat sink 104.

From the description in ¶¶ [0031] and [0033], it is clear that, for example, heat sink 104 as shown in Figs. 3-7 has a monolithic structure. For example, in ¶ [0033], the specification states that the "monolithic design is one piece and increases the thermal conductivity by eliminating brazing joints due to differential thermal expansion." Applicants thus submit that the term "monolithic" and what element(s) is considered to be monolithic is clearly set forth in the specification to enable one skilled in the art to make and use the

invention. Although ¶ [0036] discloses that "caps 108 are attached or joined to the monolithic structure 104," it should be understood that the elements shown and described in Figs. 3-7 are merely exemplary designs and that the monolithic structure of heat sink 104 is not limited to the structure shown in Figs. 3-7. For example, it would be possible to have a monolithic structure for the heat sink 104 in which the caps 108 were part of the monolithic structure, such as suggested by the heat sink 104 shown in Fig. 4.

With respect to part 158, this is not an element of the heat sink 104. Rather, it is merely a designation for one of the sides of the heat sink 104, such as shown in Fig. 7.

With respect to cover 106, it is submitted that forming a seal between cover 106 and heat sink 104 is plainly within the ability of one skilled in the art. In particular, Figs. 3-5 plainly show how surfaces of the cover 106 facing heat sink 104 would contact surfaces on side 158 of the heat sink 104 (e.g., around the entire perimeter of side 156 of heat sink 104), and thus provide the ability to seal the cover 106 to the heat sink 104. In addition, in Fig. 3, part 106 is not flipped 180 degrees as Fig. 5 clearly shows the flow paths between the cover 106 and heat sink 104 in this orientation. The bracket shown in Figs. 3 and 5 is not essential to the structure of the device 100, as shown for example in Fig. 4, which does not include any bracket. It is also clear that the surface of cover 106 (not shown) facing side 158 of heat sink 104 is configured so that the cover 106 and the heat sink 104 can contact each other, as shown in Fig. 4. In other words, since Fig. 4 clearly shows that the cover 106 and the heat sink 104 can contact each other in the complete device 100, it is also clear that flow channels 126 and 140 (not label 158) do not interfere with this contact.

With respect to flow channels 126 and 140, Figs. 5-7 and ¶¶ [0034]-[0037] clearly show and explain their structure and operation. One of ordinary skill in the art would clearly understand their structure, operation, and function from these figures and corresponding description. These figures and description also clearly explain the structure, operation and function of the entry openings 124 and exit openings 128 along flow channel 140. Indeed, these figures and description provide a more than sufficient explanation for one skilled in the art to make and use an exemplary temperature control device including a heat sink consistent with the present invention. Accordingly, Applicants submit that the claimed invention and the associated description comply with the enablement requirement of 35 U.S.C. § 112, ¶ 1, and thus requests that this rejection be withdrawn.

Claims 6-11 and 27-30 were rejected under 35 U.S.C. § 103(a) as being unpatentable over DeHaven et al. (U.S. Patent No. 5,701,666) in view of Burward-Hoy (U.S. Patent No. 5,977,785). The text of this rejection is identical to the text set forth in the prior Office Action of August 4, 2005, rejecting claims 6-11 under § 103(a) over the combination of DeHaven and Burward-Hoy. Accordingly, it is not clear why the substance of the remarks set forth in the Amendment of January 11, 2006, addressing the rejection set forth in the prior Office Action was insufficient to overcome the rejection. Nevertheless, Applicants will endeavor to explain again why claim 6, as well as claims 7-11 and 27-30 depending therefrom are patentably distinguishable from DeHaven and Burward-Hoy, whether considered singly or in combination.

Claim 6 recites that a testing system for electronic devices comprises a plurality of active temperature control devices for regulating the temperature of at least one device under test ("DUT"), each of the active temperature control devices comprising a thermal transfer surface configured to establish a thermal path to a respective DUT, and a fluid-cooled heat sink thermally coupled to the thermal transfer surface, the fluid-cooled heat sink being configured to maintain a flow of coolant proximate the thermal transfer surface. Claim 6 further recites that the testing system comprises a coolant flow control system coupled to the active temperature control devices, the coolant flow control system being configured to individually regulate the flow rate of coolant through each fluid-cooled heat sink.

In Figs. 6 and 7, DeHaven discloses that a housing 12 holds wafers 14 and 16 electrically coupled together by an interconnect media 18, and heating/cooling elements 80 and 82, which are positioned on opposing sides of the housing 12, provide heating or cooling to the wafers 14 and 16 via the housing 12. As shown in Fig. 7, four sets of this structure (i.e., the housing 12, wafers 14 and 16, interconnect media 18, and heating/cooling elements 80 and 82) can be placed between fixtures 90 and 92.

In the rejection, it was admitted that DeHaven fails to disclose or suggest a fluid cooled heat sink thermally coupled to a transfer surface. However, not only does DeHaven fail to disclose or suggest a fluid cooled heat sink thermally coupled to a transfer surface, it also DeHaven fails to disclose or suggest the coolant flow control system being configured to individually regulate the flow rate of coolant through each fluid-cooled heat sink. In fact, although DeHaven shows heating/cooling elements 80 and 82 for each of the four sets in

between fixtures 90 and 92, DeHaven does not disclose or suggest individually regulating the heating/cooling of each pair of elements 80 and 82 in each set.

Even if combinable with DeHaven, Burward-Hoy fails to cure its deficiencies. Burward-Hoy discloses a coolant flow control system coupled to a single heat exchanger in which the control circuit 156 reads the signal from the temperature sensor 160 and adjusts the flow rate of the fluids to the single heat exchanger, (see Fig. 3 and col. 4, lines 7-23 of Burward-Hoy). However, like DeHaven, Burward-Hoy does not disclose or suggest a coolant flow control system coupled to a plurality of temperature control devices or a coolant flow control system that individually regulates the flow rate of coolant through each fluid-cooled heat sink. Accordingly, even if combinable, claim 6 is patentably distinguishable from the combination of DeHaven and Burward-Hoy.

Claims 7-11 and 27-30 are also patentably distinguishable from the combination of Burward-Hoy and DeHaven et al. by virtue of their dependence from claim 6, as well as their additional recitations. For example, claim 10 recites that each of the active temperature control devices further comprises a heater configured to heat the respective thermal transfer surface. Neither DeHaven nor Burward-Hoy disclose or suggest a temperature control device having both a heater and a fluid-cooled heat sink. Rather, each reference discloses using only one or the other, not both. Accordingly, claim 10 further distinguishes the claimed invention from the combination of DeHaven and Burward-Hoy.

Applicants also reiterate, as set forth in the Amendment of January 11, 2006, that claims 7-9 and 11 were asserted to be inherent from the combination of DeHaven and Burward-Hoy. As in the prior Office Action, the PTO has failed to provide a rationale or evidence tending to show inherency. "The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic." *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993); *In re Oelrich*, 666 F.2d 578, 581-82, 212 USPQ 323, 326 (CCPA 1981). "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.'" *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir.

1999) (citations omitted) "In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." *Ex parte Levy,* 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original) Because the PTO failed to provide evidence that the limitations are necessarily present in the combination, reconsideration and withdrawal of the rejection is respectfully requested.

Therefore, for these reasons, reconsideration and withdrawal of the rejection of claims 6-11 and 27-30 is respectfully requested.

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check or credit card payment form being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicants hereby petition for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

Date 7/31/06

By _____

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